

Budget Matrix for eRD1 Calorimeter R&D FY 2018 (\$K)

	Full Funding	20% Cut	40% cut
PWO+Scint Glass (CUA/Orsay/INFN/Caltech)	60.0	48.0	36.0
W/SciFi/WLS + HCAL (UCLA)	66.2	56.2	41.2
W/Shasklik (BNL/UTFSM)	75.0	60.0	45.0
Total	201.2	164.2	122.2

By Sub-Project

PWO + Scintillating Glass R&D FY2018 (\$K)			
Institution	Full Budget	20% cut	40% cut
CUA	30	24	18
IPN-Orsay	20	16	12
INFN	5	4	3
Caltech	5	4	3
Total	60	48	36

W/SciFi/WLS and HCAL R&D FY 2018 (\$K)			
Activity	Full Budget	20% cut	40% cut
UCA Student Support (w/overhead)	10.1	10.1	10.1
Travel (w/overhead)	12.6	12.6	12.6
W/SciFi/WLS readout	10.0	0.0	0.0
HCAL WLS	6.0	6.0	6.0
HCAL mechanical components	3.0	3.0	3.0
HCAL machine shop (w/overhead)	9.5	9.5	9.5
HCAL PMTs	15.0	15.0	0.0
Total	66.2	56.2	41.2

W/Shashlik R&D FY 2018 (\$K)			
Activity	Full Funding	20% Cut	40% Cut
SiPMs	5	5	5
Misc electronic components (cables, adapter boards, etc)	5	5	5
Technical support at BNL (technician, designer)	15	15	10
Support for UTFSM at BNL for 1 month	5	5	5
Travel (includes support for UTFSM and BNL)	10	10	5
Test beam (in collaboration with sPHENIX or other EIC beam calorimeter test)	10		
Total w/o overhead	50	40	30
Overhead	25	20	15
Total with overhead	75	60	45

Available mechanical components for HCALs:

1. Compensated Pb/Sc (2014)
 2. Non-compensated Fe/Sc (2018)
- Set of Pb and Sc tiles for detector 0.4m x 0.4m x 4.5 interaction length.
Sampling: (Pb/Sc, 10 mm/2.5 mm) (Sc. tiles polished all edges)
 - Set of Fe and Sc tiles for detector 0.4m x 0.4m x 4.5 interaction length.
Sampling: (Fe/Sc, 20 mm/3mm) (Sc.tiles, three sides diffusive paint, one side polished)

Absorber and Sc. tiles in both sets has same transverse dimensions.

EMCals:

- Forward 10 cm x 10 cm x 20 X_0 , Granularity 4 x 4 towers
- Barrel 7.5 cm x 15 cm x 18 X_0 , Granularity 3 x 6 towers
- HighRes Backward 10 cm x 10 cm x 20 X_0 , Granularity 2 x 2 blocks
- HighRes Backward 10 cm x 10 cm x 20 X_0 , Granularity 2 x 2 blocks